Savannah River Site
F-Tank Farm NDAA Section 3116 Basis Document Scoping Meeting
Meeting Minutes

Meeting Date: Tuesday, July 13, 2010 and Wednesday July 14, 2010
Meeting Time: 8:30 am to 4:30 pm
Meeting Location: City of Aiken Municipal Building, Aiken, South Carolina

On Tuesday, July 13, 2010 and Wednesday, July 14th the U.S. Department of Energy (DOE) hosted a public meeting with the U. S. Nuclear Regulatory Commission (NRC) on the development of the Section 3116 Draft Basis Document for F Tank Farm (FTF) at the Savannah River Site (SRS). The meeting was held at the City of Aiken Municipal Building Conference Center in Aiken, South Carolina. This local meeting was requested by DOE to expedite the identification of issues and NRC's views on the reasonability of the approach to demonstrate compliance with National Defense Authorization Act (NDAA) Section 3116(a) criteria, thereby allowing for more informed and efficient consultation with the NRC and a more informed draft for public comment. The topics addressed on July 13th and 14th included:

- General Information Input Package (FTF-WDIP-001)
- Highly Radioactive Radionuclides Input Package (FTF-WDIP-002)
- Removal To The Maximum Extent Practical Input Package (FTF-WDIP-003)
- Radionuclide Concentrations Of Stabilized Residuals, Tanks and Ancillary Structures Input Package (FTF-WDIP-004)
- Waste Will Be Disposed Of In Accordance With The Performance Objectives 10 CFR 61.41 & 10 CFR 61.42 Input Package (FTF-WDIP-005)
- Waste Will Be Disposed Of In Accordance With The Performance Objectives 10 CFR 61.43 Input Package (FTF-WDIP-006)
- Waste Will Be Disposed Of In Accordance With The Performance Objectives 10 CFR 61.44 Input Package (FTF-WDIP-007)

The seven input packages described above were provided in advance of the meeting and are available on the web at http://sro.srs.gov/f_htankfarmsdocuments.htm. Representatives from Savannah River Remediation (SRR), DOE and NRC were in attendance. In addition to the meeting being open to the public, public participation was also available by teleconference or through the internet.

Meeting Minutes—Tuesday, July 13, 2010:

Welcome and Introductions were provided by Sherri Ross, DOE and Ginger Dickert, SRR. David Skeen, NRC, also provided opening remarks.

The meeting proceeded with discussion of the topics as identified on the agenda provided in Attachment 1 to this document.

Meeting attendees for Tuesday, July 13, 2010 are listed on the meeting sign-in roster provided in Attachment 2 to this document.

Discussion Topics:

Process Overview/Agenda/Objectives/Background—Steve Thomas, SRR, provided an overview presentation covering the following topics:

- Purpose of the meeting
- Overview of Section 3116 Basis Document Development
- Anticipated outcome of the meeting
- Agenda
- Meeting approach
- Previous 3116 Determinations

Review of Regulatory Document Structure—Ginger Dickert, SRR, provided a presentation outlining the regulatory documentation needs for closure of waste tanks and ancillary structures at FTF.

Review of General Information Input Package [FTF-WDIP-001]—Steve Thomas, SRR, provided a presentation covering the contents of FTF-WDIP-001, *General Information Input Package for the Section 3116 Draft Basis Document for F-Tank Farm at the Savannah River Site*. No follow-up items were identified.

Review of Highly Radioactive Radionuclides (HRRs) Input Package [FTF-WDIP-002]—Mark Layton, SRR, provided a presentation covering the contents of FTF-WDIP-002, *Highly Radioactive Radionuclides (HRRs) Input Package for the Section 3116 Draft Basis Document for F-Tank Farm at the Savannah River Site*. The following key items were identified between SRR, DOE and NRC:

1. DOE could consider raising the threshold limits of 0.1 and 1.0 mrem/yr. NRC suggested that these thresholds were very conservative in context with the "10%" guideline. NRC recommends evaluation of raising these thresholds by looking at the number of radionuclides affected and their collective dose impact.
2. NRC acknowledged it is appropriate to consider doses beyond the 10,000-year period of performance for selection of HRRs given the uncertainty in the timing of the peak dose.
3. Additional discussions on the Uncertainty and Sensitivity Analyses would be helpful.
4. Daughters that are not initially present in risk significant quantities are not appropriate as HRRs since their removal is totally associated with parents. As

appropriate, HRR removal should focus on the parent inventory. Ba-137m and Y-90 were specifically mentioned as was Ra-226. When a parent radionuclide is included solely based on the risk significance of the daughter, a clear explanation should be provided.

5. The impact of the individual radionuclides and associated timing may be important. For example, the peak dose associated with C-14 is independent of other radionuclides while in other cases the peak dose may be due to a combination of radionuclides.
6. Removal of Cs-135 should be covered by removal of Cs-137 and this could be an argument presented if the associated peak dose for Cs-135 is not "significant."
7. Page 13 in Input Package FTF-WDIP-002: "Th-230 (for Np-237)" is not correct. The correct relationship is "Th-230 (for Ra-226)."
8. When discussing parent-daughter relationships, intermediate radionuclides should be identified, as appropriate.
9. Air pathway analyses independent of the FTF Perfomance Assessment may be used to support the screening process for HRRs.

First Public Comment Period (July 13, 2010)—Members of the public were invited to provide comments. The following individuals provided comments or asked questions:

- Joe Ortaldo—SRS Citizens Advisory Board
- Jana Dawson—TechLaw
- Tom Clements—Friends of the Earth
- Kuppuswamy Jayaraman— SRS Citizens Advisory Board

Public comments that occurred on Tuesday, July 13, as well as the entire proceedings for Tuesday, can be viewed at https://www.livemeeting.com/cc/srsemeetings/view using "Recording ID" code "CPTT23".

Review of Maximum Extent Practical (MEP) Input Package [FTF-WDIP-003]— Larry Romanowski, SRR, provided a presentation covering the contents of FTF-WDIP-003, *Removal to the Maximum Extent Practical Input Package for the Section 3116 Draft Basis Document for F-Tank Farm at the Savannah River Site*. The following key items were identified between SRR, DOE and NRC:

1. MEP is a process. A key part of the discussion needs to be "optimization" of this process. An important part of this optimization is a clear discussion of how tanks and structures are binned based on waste types and physical configuration, and how the overall Liquid Waste System risk reduction is optimized.
2. Need to have a process in place to evaluate available and emergent technologies and how decisions are made related to these technologies.
3. Maturity of technology should be considered in evaluation.
4. The histories of waste removal (e.g., Tanks 5, 6, 18 and 19) should be provided as examples for how DOE has optimized the removal technologies. These examples may be captured in a separate reference document.
5. Discussion of the process used to evaluate potential equipment failures should be included.

6. NUREG-1854 contains examples of cost-benefit analysis factors that should be considered including cost comparisons to similar activities both at SRS and across the DOE Complex.
7. Qualitative discussions can be used to complement quantitative analyses.
8. MEP is relative to conditions present at the time the MEP evaluation is performed.
9. Worker dose and costs associated with worker dose avoidance should be considered in cost-benefit analyses.

Radionuclide Concentrations of Stabilized Residuals, Tanks and Ancillary Structures [FTF-WDIP-004]—Kent Rosenberger, SRR, provided a presentation covering the contents of FTF-WDIP-004, *Radionuclide Concentration of Stabilized Residuals, Tanks and Ancillary Structures Input Package for the Section 3116 Draft Basis Document for F-Tank Farm at the Savannah River Site*. The following key items were identified between SRR, DOE and NRC:

1. The assumptions utilized in the calculations should be reasonably conservative in comparison to the 10 CFR 61.42 analysis. For example, additional justification may be needed regarding diameter of well and use of Gordon Aquifer.
2. If not evaluated, discuss justification for not evaluating different drilling scenarios (e.g., drilling down through tank wall) as part of discussion of alternative analyses considered.
3. Need to reconcile difference in timing assumption (i.e., 500 versus 100 years) in Class C intruder versus 10 CFR 61.42 analyses for transfer lines.
4. Need to include details on basis for conversion factor to account for site-specific characteristics or differences in dosimetry similar to that described in Appendix B of NUREG-1854. In determination of the conversion factor using the Appendix B methodology, the conversion factor(s) can be radionuclide specific or generic for sum of fractions calculations.
5. Evaluate which scenario is more limiting – drilling a well at tank wall (groundwater) versus drilling through tank (drill tailings).
6. It is anticipated that the exhaustive consultation process that will occur for the FTF WD basis document will satisfy the requirements of NDAA 3.B.iii (i.e., greater than Class C).

Second Public Comment Period (July 13, 2010)—Members of the public were invited to provide comments, the following individuals provided comments or asked questions:

- Kuppuswamy Jayaraman— SRS Citizens Advisory Board
- Murray Riley—Public

Meeting Minutes—Wednesday, July 14, 2010:

The meeting proceeded with discussion of the topics as identified on the agenda provided in Attachment 1 to this document.

Meeting Attendees for Wednesday, July 14, 2010 are listed on the meeting sign-in roster provided in Attachment 3 to this document.

Discussion Topics:

Overview from July 13, 2008—Steve Thomas, SRR, led a discussion on follow-up items from Tuesday, July 13, 2010. The meeting participants reviewed the key items identified during the HRR and MEP discussions and finalized wording. Follow-up discussion was held regarding Radionuclide Concentrations of Stabilized Residuals, Tanks and Ancillary Structures [FTF-WDIP-004]. The key items identified during the follow-up discussion, along with those identified the previous day, are reflected in the notes summary provided for Tuesday, July 13, 2010.

Review of Waste Will Be Disposed of In Accordance With the Performance Objectives in 10 CFR 61.41 and 10 CFR 61.42 [FTF-WDIP-005]—Larry Romanowski, SRR, provided a presentation covering the contents of FTF-WDIP-005, *Waste Will Be Disposed Of In Accordance With The Performance Objectives 10 CFR 61.41 & 10 CFR 61.42 Input Package for the Section 3116 Draft Basis Document for F-Tank Farm at the Savannah River Site*. The following key items were identified between SRR, DOE and NRC:

1. Ongoing review of the FTF Performance Assessment, changes or revisions to the FTF Performance Assessment, and Special Analyses associated with individual tanks or groups of tanks (or ancillary structures) will be a significant part of the NRC's NDAA Section 3116(b) monitoring responsibilities.
2. The NRC has no comments on FTF Performance Assessment, Rev. 1 at this time. They have not initiated their review but, instead, anticipate performing this review once the Draft FTF 3116 Basis Document is submitted.
3. A high-level summary of the conclusions of the barrier analysis and the important attributes could be included in Section 7 of the Draft FTF 3116 Basis Document. Consider including a discussion on the breadth of the Uncertainty and Sensitivity Analyses used and provide a brief discussion on the insights learned. Reference the FTF Performance Assessment for the in-depth discussion.
4. NRC recognizes that the deterministic values used to compare against the performance objective values for 10 CFR 61.41 and 10 CFR 61.42 will change as new information is factored into the FTF Performance Assessment and could change (i.e., increase or decrease). NRC will focus their monitoring on reasonable assurance on meeting the performance objective versus focusing on the discrete deterministic values from the FTF Performance Assessment.

5. Pictorially depicting the scenarios analyzed would be helpful. Similar depictions were included in the FTF Performance Assessment. Providing a summary table of the limits and projected values would also improve readability.

Review of Waste Will Be Disposed of In Accordance With the Performance Objectives in 10 CFR 61.43 [FTF-WDIP-006]—Larry Romanowski, SRR, provided a presentation covering the contents of FTF-WDIP-006, *Waste Will Be Disposed Of In Accordance With The Performance Objectives 10 CFR 61.43 Input Package for the Section 3116 Draft Basis Document for F-Tank Farm at the Savannah River Site*. The following key item was identified between SRR, DOE and NRC:

1. Adding a crosswalk table comparing DOE requirements (e.g., 10 CFR 835) to 10 CFR 20 would improve readability. A suggestion would be to provide cites to specific sections versus listing the values. DOE plans to keep narrative comparison / discussion with the footnotes, consistent with prior 3116 basis documents.

Review of Waste Will Be Disposed of In Accordance With the Performance Objectives in 10 CFR 61.44 [FTF-WDIP-007]—Larry Romanowski, SRR, provided a presentation covering the contents of FTF-WDIP-006, *Waste Will Be Disposed Of In Accordance With The Performance Objectives 10 CFR 61.43 Input Package for the Section 3116 Draft Basis Document for F-Tank Farm at the Savannah River Site*. The following key item was identified between SRR, DOE and NRC:

1. It would be helpful to include a discussion on the fact that the closure cap modeled in the FTF PA, Rev.1 will likely differ than the design of the final cap installed. A statement that the final cap design will take into account the requirements and considerations of 10 CFR 61.44, as appropriate, should be included.

First Public Comment Period (July 14, 2010)—Members of the public were invited to provide comments, the following individuals provided comments at this time:

- Lee Poe—Public
- Rose Hayes— SRS Citizens Advisory Board
- Ernie Chaput—Economic Development Partnership of Aiken and Edgefield Counties – A written copy of the comments was provided to DOE (Attachment 4).

Public comments that occurred on Wednesday, July 14, as well as the entire proceedings for Wednesday, can be viewed at https://www.livemeeting.com/cc/srsemeetings/view using "Recording ID" code "CPTT23-1".

Path Forward—Sherri Ross, DOE, led a discussion on the pathforward for development of the Draft FTF 3116 Basis Document. The following key items were identified between SRR, DOE and NRC:

1. DOE is seeking feedback from the NRC on overall schedule durations for the Draft FTF 3116 Basis Document consultation including FTF Performance Assessment, Revision 1 and the Technical Evaluation Report.
2. Final meeting minutes will include summary of public comments received.

3. DOE and NRC will independently post meeting minutes on publicly-accessible websites.

Second Public Comment Period (July 14, 2010)—Members of the public were invited to provide comments, the following individuals provided comments at this time:

- Joe Ortaldo— SRS Citizens Advisory Board
- Kuppuswamy Jayaraman— SRS Citizens Advisory Board
- Donna Antonucci—Public
- Louis Zeller—Blue Ridge Environmental Defense League

Attachment 1

Savannah River Site
F-Tank Farm NDAA Section 3116 Draft Basis Document Scoping Meeting

City of Aiken Municipal Building Conference Center
214 Park Avenue, SW
Aiken, South Carolina

AGENDA

Tuesday, July 13, 2010 (8:30 a.m. – 4:30 p.m.)

Conference Call participation (20 lines available): 800-857-7741 Pass code 58252

Session Time	Topic	Lead
8:30 a.m.	Welcome & Introductions	DOE
9:00 a.m.	Process Overview/Agenda/Objectives/Background	SRR
9:30 a.m.	Review of General Information Input Package	SRR
10:00 a.m.	Break	
10:15 a.m.	Review of Regulatory Document Structure	SRR
10:45 a.m.	Review of Highly Radioactive Radionuclides Input Package	SRR
11:30 a.m.	Public Comment	
12:00 p.m.	Lunch	
1:00 p.m.	Review of Highly Radioactive Radionuclides Input Package (continued)	SRR
1:45 p.m.	Break	
2:00 p.m.	Review of Removal to the Maximum Extent Practical Input Package	SRR
3:30 p.m.	Intra-Agency Discussion, if needed	
4:00 p.m.	Public Comments	
4:30 p.m.	Adjourn	SRR

Attachment 1 (Cont'd)

Savannah River Site
F-Tank Farm NDAA Section 3116 Draft Basis Document Scoping Meeting

City of Aiken Municipal Building Conference Center
214 Park Avenue, SW
Aiken, South Carolina

AGENDA

Wednesday, July 14, 2010 (8:30 a.m. – 4:30 p.m.)

Conference Call participation (20 lines available): 800-857-7741 Pass code 13469

Session Time	Topic	Lead
8:30 a.m.	Follow-up issues from Tuesday	SRR
9:00 a.m.	Review of Radionuclide Concentrations of Stabilized Residuals, Tanks and Ancillary Structures Input Package	SRR
10:15 a.m.	Break	
10:30 a.m.	Review of Waste Will Be Disposed of In Accordance With The Performance Objectives 10 CFR 61.41 & 10 CFR 61.42 Input Package	SRR
11:30 a.m.	Public Comment	
12:00 p.m.	Lunch	
1:00 p.m.	Review of Waste Will Be Disposed of In Accordance With The Performance Objectives 10 CFR 61.43 Input Package	SRR
1:30 p.m.	Review of Waste Will Be Disposed of In Accordance With The Performance Objectives 10 CFR 61.44 Input Package	SRR
2:00 p.m.	Break	
2:15 p.m.	Intra-Agency Discussion, if needed	
2:45 p.m.	Pathforward	DOE
3:15 p.m.	Recap Meeting & Review Meeting Minutes	SRR
4:00 p.m.	Public Comments	
4:30 p.m.	Adjourn	

Attachment 4

DOE and NRC Public Meeting
Comments
SRS F Tank Farm Waste Determination
July 14, 2010

My name is Ernie Chaput and I am representing the Economic Development Partnership of Aiken and Edgefield Counties, South Carolina. My organization has long followed SRS programs and provided comments which, we believe, facilitate the best interests of our community.

Closure of high level waste tanks is the culmination of the program to eliminate the greatest SRS risk to public health and the environment – the risk resulting from liquid radioactive wastes stored in aging underground tanks. Tank closure is a goal worth striving for, and one which SRS and DOE should be proud.

Because criteria for tank closure were controversial in the past, the Congress, in the FY 2005 Authorization Act, provided DOE with thoughtful guidance on tank closures. They specifically addressed the question "How clean is clean?" Their guidance is important in assuring that a reasoned balance is maintained between health and environmental concerns, timely closure actions and the effective expenditure of limited financial resources.

I am here today to support the exercising of technical judgment in determining tank closure cleanup criteria which is inherent in the Congressional guidance. We believe the combined technical capabilities and professionalism of the SRS contractors, DOE, NRC, South Carolina DHEC and EPA, with input from the public, will result in the proper tank closure criteria.

There may be a temptation to spend undue efforts to remove an additional curie, or to wait for the next cleaning technology which is "just about ready." We believe that such actions would be a mistake for three reasons:

1. Such actions will not have any meaningful benefit to the public or site workers. SRS will always remain under federal jurisdiction, with a vigorous program of post-closure control.
2. Delay in closure action results in tank "heels" being vulnerable to leakage for longer periods of time than if grouted at the earliest opportunity.
3. Attempts to remove marginal additional curies from the tanks will utilize financial resources which are better used in removing and vitrifying waste from active tanks.

In making the waste determination, sometimes "good enough is good enough." We support your exercising the judgment provided by Congressional wisdom in legislation.

We have one additional comment for your consideration. There will be many tank closure actions during the next 20 years, and we recommend that DOE and NRC develop

Attachment 4 (Cont'd)

a streamlined process for making and reviewing the necessary waste determinations and other closure actions. A streamlined process can save valuable time and staff efforts.

Thank you for the opportunity to provide these comments.